

## REPORT DOCUMENTATION PAGE

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FINAL/30 SEP 93 TO 30 SEP 94

4. TITLE AND SUBTITLE  
(FY92/93 HBCU/MI) CENTER FOR SCIENTIFIC VISUALIZATION

5. FUNDING NUMBERS

6. AUTHOR(S)

4276/AS  
F49620-93-1-0600

MS GLORIA BROWN-SIMMONS AND MS DIANNE LOVE

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

CENTRAL STATE UNIVERSITY  
ACADEMIC AFFAIRS  
WILBERFORCE OH 45384

8. PERFORMING ORGANIZATION  
REPORT NUMBER

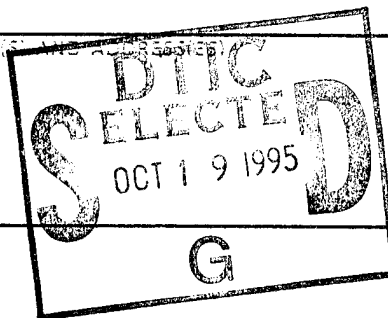
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AFOSR/NM  
110 DUNCAN AVE, SUTE B115  
BOLLING AFB DC 20332-0001

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11. SUPPLEMENTARY NOTES



12a. DISTRIBUTION AVAILABILITY STATEMENT

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12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

In FY94, Central State University established a Center for Scientific Visualization (CSV) using state-of-the-art technology in an interdisciplinary approach to solving problems in research.

The primary objective of the CSV are as follows: 1) provide an environment for multiple disciplines to work together at science teams; 2) support undergraduate and faculty research projects requiring advanced visualization techniques 3) serve as a testbed to develop new visualization mechanisms to aid in teaching difficult mathematics, scientific and engineering concepts 4) support undergraduate courses which prepare students to utilize advanced computer graphic, image processing and visualization techniques in research environment.

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15. NUMBER OF PAGES

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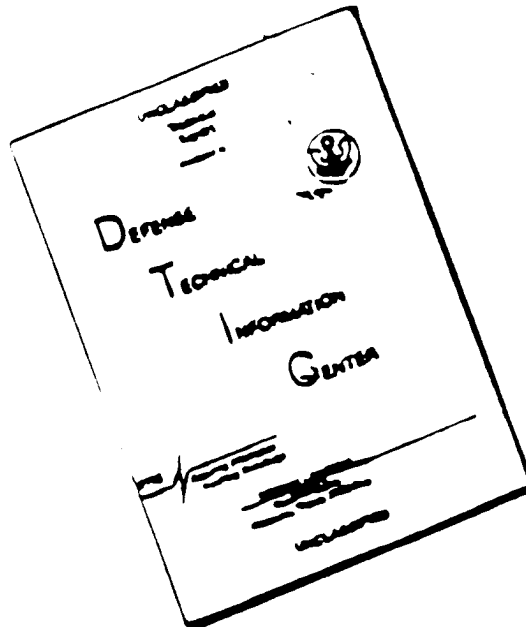
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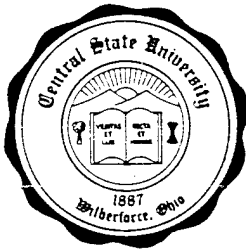
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**PROGRESS/FINAL REPORT  
U. S. AIR FORCE INFRASTRUCTURE EQUIPMENT REQUEST**

In FY '94, Central State University established a Center for Scientific Visualization (CSV) using state-of-the-art technology in an interdisciplinary approach to solving problems in research.

The primary objectives of the CSV are as follows: 1) provide an environment for multiple disciplines to work together as science teams; 2) support undergraduate and faculty research projects requiring advanced visualization techniques; 3) serve as a testbed to develop new visualization mechanisms to aid in teaching difficult mathematics, scientific and engineering concepts; 4) support undergraduate courses which prepare students to utilize advanced computer graphics, image processing and visualization techniques in a research environment.

The Center was built upon the existing expertise and resources of the manufacturing engineering, science, mathematics, computer science and art departments.

Central State University requested and received funding from the Department of the Air Force, Office of Scientific Research to assist in developing the infrastructure for the Center.

Attachment A lists the instrumentation that was purchased and is being used to achieve the objectives of the programs in the Center.

As a part of its commitment to establish and maintain the Center for Scientific Visualization, the University provided, through its capital improvements budget, funds to renovate space to house the Center. In addition, University funds were used to purchase additional equipment. The University will continue to provide the resources for the maintenance and upkeep of the facility.

During the developmental stages of the CSV and the proposal to the Department of the Air Force for infrastructural development, Ms. Gloria Brown-Simmons was the Director for the Center and Principal Investigator for the project. Pursuant to the award and the completion of the project, i.e., purchasing equipment and supervising its installation, Ms. Brown-Simmons left Central State to assume another position. Pursuant to her departure, in June 1994, Ms. Dianne Love, Assistant Professor in the International Center for Water Resources Management was appointed as Director of the Center for CSV and Project Director for the infrastructure development projects.

## U.S. AIR FORCE EQUIPMENT PURCHASE REPORT

VENDOR	DESCRIPTION	AMOUNT
PARITY SYSTEMS	CD-ROM DRIVE	\$626.00
MAC BARGAINS	MICROTEK SCANNER IIHR	\$1,029
APPLE COMPUTER	POWER MAC 8100/100AV 20 UNITS PLUS SOFTWARE	\$117,079
MODERN OFFICE METHODS	TEKTRONIX PRINTER	\$7,249
WAVEFRONT TECHNOLOGY	WAVEFRONT SOFTWARE	\$25,000
SILICON GRAPHICS	SEE ATTACHED	\$108,258
SILICON GRAPHICS	SEE ATTACHED	\$48,467
TOTAL		\$307,082

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## PURCHASE ORDER

## CENTRAL STATE UNIVERSITY

WILBERFORCE, OHIO 45384

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ADMINISTRATION BUILDING  
CENTRAL STATE UNIVERSITY  
WILBERFORCE, OHIO 45384

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DATE Dec. 20, 1993

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DELIVERY:

DATE

BUILDING/ROOM Jenk 114G

To: Silicon Graphics, Inc.  
2011 N. Shoreline Blvd.  
M/S 17L-120

VENDOR CONTACT Mountain View, CA 94043

P.S.U. BUYER Mark Kelley

CONFIRMING ORDER

N

F.O.B. D/S

DELIVER TO Central State University  
Center for Scien. Visual  
c/o Receiving  
1400 Brush Row Rd.  
Wilberforce, OH 45384



## ORDER INFORMATION

LINE	CATALOG	DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENDED AMOUNT
001	D-42602	Onyx VTX Graphics Deskside Workstation, 4 MB texture memory, 2x100 MHz R4400, 64MB memory, 1 IMB	1 ea		\$ 71,238.00	\$ 71,238.00
002	SD8-2	2GB SCSI-2 FAST/WIDE Differential System Disk for all CHALLENGE and ONYX systems	1 ea		5,696.00	5,696.00
003	P8-T4V2	5GB 8mm Internal Drive for all CHALLENGE and ONYX systems	1 ea		4,745.00	4,745.00
004	P8-CDROM	680MB CD FOR all CHALLENGE and ONYX systems	1 ea		945.00	945.00
005	SC4-IDO-5.1	IRIS Development Option for IRIX 5.1	1 ea		876.00	876.00
006	SC4-NFS-5.1	Network File System Software for IRIX 5.1	1 ea		446.25	446.25
007	CS-SWCARE- DEV	Support price for software options for systems with IDO	1 EA		0.00	0.00

Per Quote # CWC941495, IUC Contract # UN93-005

Page 1 of 4

PAGE

TOTAL

83,946.25

GRAND

TOTAL

**EQUAL EMPLOYMENT OPPORTUNITY.** The Supplier in bidding and/or filling a purchase order agrees not to discriminate against any employee or applicant for employment, with respect to higher tenure, terms, conditions, or privileges of employment or any matter directly or indirectly related to employment, because of race, color, sex, religion, national origin, or ancestry. The Supplier further agrees that every subcontract or order given for the supplying of this order will contain a provision requiring non-discrimination in employment, as herein specified. This covenant is required pursuant to Executive Order 11246, Executive Code of Ohio and policy of Central State University and any breach thereof may be regarded as a material breach of the contract or purchase order.

MATERIAL ON THIS ORDER EXEMPT FROM OHIO SALES TAX, SEC. CODE OF OHIO SEC. 5709.02(B)(1) AND ALL FEDERAL TAX, TAX EXEMPT, NO DEDUCTION

CENTRAL STATE UNIVERSITY PURCHASING DEPT

Prices listed are firm, increases are authorized and substitutes accepted without approval of purchasing office. Rejection of goods may be made without notice.

Prices are FOB destination, unless otherwise specified. Freight and handling charges are added to the price of goods shipped.

12/22/93  
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WILBERFORCE, OHIO 45384

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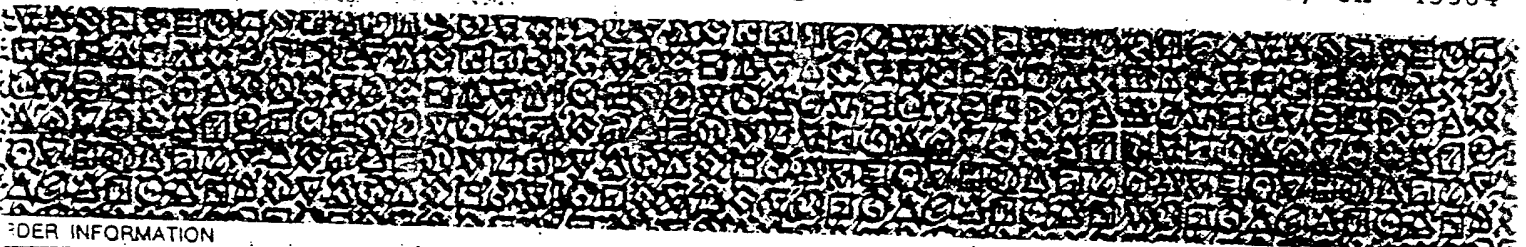
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Mountain View, CA 94043

ENDOR CONTACT  
S.U. BUYER

CONFIRMING ORDER

F.O.B. S



ORDER INFORMATION

LINE #	CATALOG #	DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENDED AMOUNT
008	MO4-CD	CD-ROM Update Media Option for ASD-For Support Only	1	ea	\$ 0.00	\$ 0.00
009	DK-C1-00	Destination Kit for L Series, ONYX Deskside, 110V	1	ea	0.00	0.00
010	D-M19A	19-inch MultiSync Tilt Swivel Monitor for ELAN, VGXT, Sky Writer Personal IRIS, and ONYX VTX	1	ea	0.00	0.00
011	FTO-64NC	First 64MB High Density Memory for all CHALLENGE and ONYX systems	1	ea	0.00	0.00
012	SC4-W4D-5.1	IRIX 5.1 System Software and Manuals for Workstations, CD-ROM Media	1	ea	0.00	0.00
013	WB-TW050EX	INDIGO2 Extreme Graphics, 100/50 MHz, 32MB Memory, 1GB System Disk, 19" Monitor	2	ea	21,700.00	43,400.00

Per Quote # CWC941495, IUC Contract. #UN93-005

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PAGE TOTAL	43,400.00
GRAND TOTAL	

**EQUAL EMPLOYMENT OPPORTUNITY:** The Supplier in bidding and/or filling a purchase order agrees not to discriminate against any employee or applicant for employment with respect to higher tenure, terms, conditions, or privileges of employment, or any matter directly or indirectly related to employment, because of race, color, sex, religion, national origin, or ancestry. The Supplier further agrees that every subcontract or order given for the supplying of this order will contain a provision requiring non-discrimination in employment, as herein specified. This covenant is required pursuant to Executive Order 11246, Executive Code of Ohio and policy of Central State University and any breach thereof may be regarded as a material breach of the contract or purchase order.

MATERIAL ON THIS ORDER EXEMPT FROM OHIO SALES TAX BE USED MADE IN OHIO AND  
TAXES AND ALL FEDERAL TAX EXEMPTIONS

Prices quoted are firm increases are not  
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approval of purchasing office  
Revised 10/93

Prices are FOB destination unless otherwise  
indicated. Freight and handling charges added to  
order total.

CENTRAL STATE UNIVERSITY PURCHASING DEPT

*E. W. Johnson*

PURC 3E ORDER

## CENTRAL STATE UNIVERSITY

WILBERFORCE, OHIO 45384

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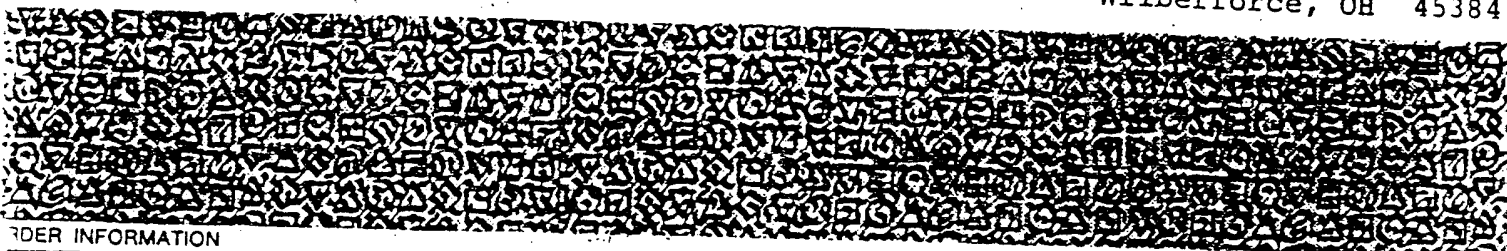
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Wilberforce, OH 45384

To: Silicon Graphics, Inc.  
2011 N. Shoreline Blvd.  
M/S 17L-120

ENDORSEMENT  
S.U. BUYER Mountain View, CA 94043

-CONFIRMING ORDER N F.O.B. S



## ORDER INFORMATION

LINE	CATALOG	DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENDED AMOUNT
014	SR4-IDO-4.1.1	IRIS Development Option Right to Use License	2	ea	\$ 600.00	\$ 1,200.00
015	SR4-NFS-4.0.1	Network File System Software Right-to-Use License for (IRIX 4.OX)	2	ea	371.25	371.25
016	CS-SWCARE-DEV	Support price for software options for systems with IDO. Full/Basic/IRIXCare is req'd	2	ea	0.00	0.00
017	RMA PACKET	Returned Material Authorization Packet	2	ea	0.00	0.00
018	M04-RTU	Right TO Use Update Media Option, fee to cover taxable value for RTU in some states	2	ea	0.00	0.00
019	W24B-5032	INDY, 100/50 MHz R4000SC, 24-Bit Color, 32MB, 535MB System Disk, 1280x1024, 16" Monitor, IndyCam	2	ea	12,746.50	25,493.00

Per Quote # CWC941495, IUC Contract #UN93-005  
Page 3 of 4

PAGE TOTAL	27.064.25
GRAND TOTAL	

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MATERIAL ON THIS ORDER EXEMPT FROM OHIO SALES TAX RE. SEC. CODE OF OHIO RE. 5713.02 B.1 AND ALL FEDERAL TAX EXEMPTING STATUTES

CENTRAL STATE UNIVERSITY PURCHASING DEPT

BY

## PURCHASE ORDER

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ENDOR CONTACT Mountain View, CA 94043

S.U. BUYER

Mark Kelley

## ORDER INFORMATION

LINE	CATALOG	DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENDED AMOUNT
020	SR4-IDO-5.1	IRIS Development Option Right To Use License for IRIX 5.1	2	ea	\$ 600.00	\$ 1,200.00
021	SR4-NFS-5.1	Network File System Software Right To Use License for IRIX 5.1	2	ea	371.25	742.50
022	D-M17	16" (17" Tube) Multi-Scan Tilt Swivel, Color Stereo Monitor	2	ea	0.00	0.00
023	M04-RTU	Right To Use Update Media Option, fee to cover tatable value for RTU in some states	2	ea	0.00	0.00
024	CS-SWCARE-DEV	Support price for software options for systems with IDO. Full/Basic/IRIX Care is req'd	2	ea	0.00	0.00
025		All systems include O/S, Explorer, Insight, Media Mosaic, Showcase and Workspace	1	ea	0.00	0.00
025		Warranty for these systems to be ordered on a separate P.O.	1	ea	0.00	0.00

Per Quote #CWC941495, IUC Contract #UN93-005

Page 4 of 4

PAGE TOTAL	1,942.50
GRAND TOTAL	156,353.00

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*Am. T. H. H. H.*  
*B. H. H. H.*